



U.S. Department
of Transportation

**Research and
Special Programs
Administration**

**IAEA CERTIFICATE OF COMPETENT AUTHORITY
SPECIAL FORM RADIOACTIVE MATERIALS
CERTIFICATE NUMBER USA/0154/S, REVISION 7**

400 Seventh Street, S.W.
Washington, D.C. 20590

This certifies that the sources described have been demonstrated to meet the regulatory requirements for special form radioactive material as prescribed in the regulations of the International Atomic Energy Agency¹ and the United States of America² for the transport of radioactive materials.

1. Source Identification - Amersham Corporation Model Nos. 60001, 60004, 60006, 60017, 60018, 60020, 60021 and 68310.
2. Source Description - The source capsules identified are single encapsulations constructed of either Type 304 or 304L stainless steel and are seal welded. Model Nos. 60001, 60004, 60017, 60018, 60020, and 60021 measure 6.35 mm (0.25 inches) in diameter and 24.6 mm (0.97 inches) in length. Model No. 60006 measures 6.35 mm (0.25 inches) in diameter and 22.9 mm (0.90 inches) in length. Model No. 68310 measures 6.35 mm (0.25 inches) in diameter and 19.8 mm (0.78 inches) in length. All capsules shall be manufactured in accordance with Amersham drawing nos. 60050 (attached) or 60024 (attached).
3. Radioactive Contents - not more than 8.88 TBq (240 Ci) of metallic Iridium-192 in Model Nos. 60001, 60004, and 60006 and not more than 4.4 TBq (120 Ci) of metallic Iridium-192 in Model Nos. 60017, 60018, 60020, 60021, and 68310.
4. Quality Assurance - Records of Quality Assurance activities required by Paragraph 209 of the IAEA regulations¹ shall be maintained and made available to the authorized officials for at least three years after the last shipment authorized by this certificate. Consignors and consignees in the United States exporting or importing shipments under this certificate shall satisfy the requirements of Subpart H of 10 CFR 71.
5. Expiration Date - This certificate expires September 8, 2002.

¹ "Safety Series No. 6, Regulations for the Safe Transport of Radioactive Materials, 1985 Edition, as amended 1990", published by the International Atomic Energy Agency (IAEA), Vienna, Austria.

² Title 49, Code of Federal Regulations, Parts 100 - 199, United States of America.

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CERTIFICATE USA/0154/S, REVISION 7

This certificate is issued in accordance with paragraph 703 of the IAEA Regulations and Section 173.476 of Title 49 of the Code of Federal Regulations, in response to the petition and information dated May 16, 1997 submitted by Amersham Corporation, Burlington, MA, and in consideration of other information on file in this Office.

Certified by:


Alan I. Roberts

Associate Administrator for Hazardous Materials Safety

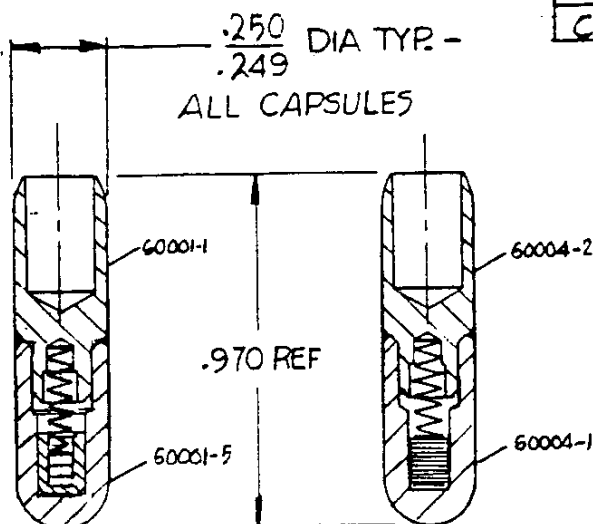
SEP - 8 1997

(DATE)

Revision 7 - issued to approve against the 1985 IAEA regulations and to extend the expiration date.

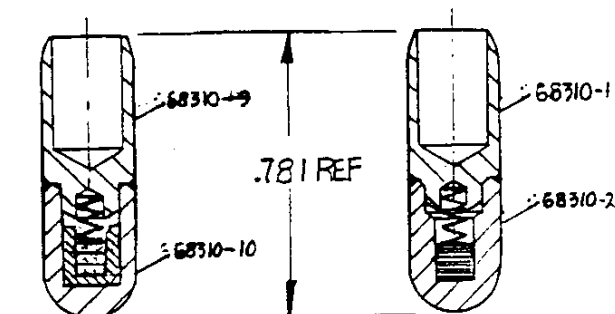
A60050

REV.	DATE	DESCRIPTION
A	12-18-78	CALLOUT 868310-2 WAS C28310-2 & B60001-2 WAS B66001-2 (ERRORS)
B	9-10-84	60006 REMOVED; ADDED 60020 & 60021
C	1 NOV 84	ADDED 60017 & 60018; ADDED SHT 3



60001

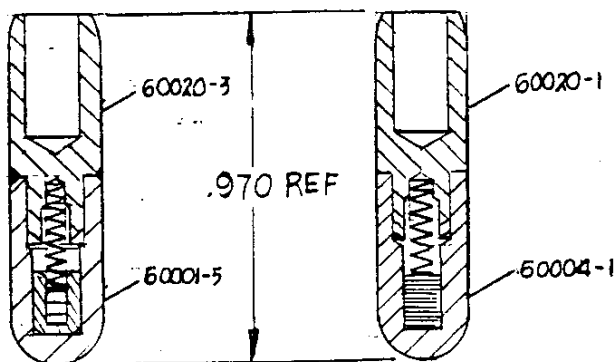
60004



PELLET

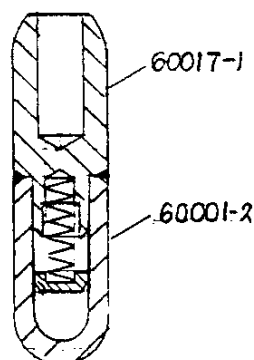
WAFER

(68310

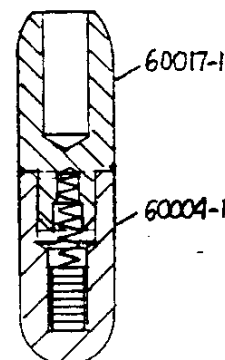


60020

60021



60017



60018

MATERIALS



TECHNICAL OPERATIONS INC.
RADIATION PRODUCTS DIVISION
BURLINGTON, MA 01803

FINISH

DWG TITLE

192

IRIDIUM SOURCE REFERENCE

DRAWN BY

UNLESS OTHERWISE
SPECIFIED TOLERANCES ARE

.X ±

CHECKED BY

.XX =

.XXX =

APPROVED BY

ANGLES ±

FRACTIONS ±

CLASSIFICATION

SIZE

DWG. NO.

A

60050

REV.

C

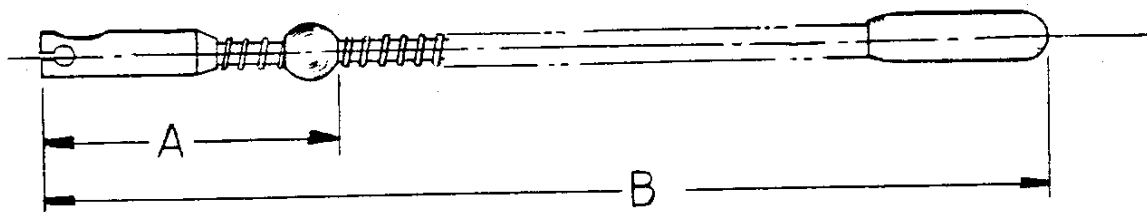
SCALE 2:1

SHEET 2 OF 3

A60050

REV.	DATE	DESCRIPTION
A	12-18-78	SEE SHEET 2
B	10-15-84	DELETED DWG SIZES FROM DWG #5
C	1 NOV 84	ADDED MODELS 844, 848 & 866

MODEL	CAPACITY (CURIES)	CAPSULE STYLE	DIM A	DIM B
A424-1	120	60001 OR 60004	2.373	7 ⁷ / ₁₆
A424-9	120	60001 OR 60004	1.225	7 ³ / ₁₆
814	120	60001 OR 60004	1.875	7 ³ / ₁₆
68309	120	68310	NOT APPLICABLE; ATTACHED DIRECTLY TO DRIVE CABLE	
69701	120	60001 OR 60004	2.537	7 ¹¹ / ₁₆
A424-20	240	60001 OR 60004	1.225	8 ¹⁵ / ₁₆
A58101	240	60006	NOT APPLICABLE NOT WIRE MOUNTED	
A424-6	120	60001 OR 60004	N.A.	10 ¹¹ / ₁₆
844	120	60017 OR 60018	1.40	6 ¹¹ / ₁₆
848	120	60020 OR 60021	2.56	7.62
866	120	60020 OR 60021	1.44	6.73



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FINISH

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192
IRIDIUM SOURCE REFERENCE

DRAWN BY

UNLESS OTHERWISE SPECIFIED TOLERANCES ARE

2/10/78 6 OCT 78

.X ±

CHECKED BY

.XX ±

.XXX ±

APPROVED BY

ANGLES ±

FRACTIONS ±

CLASSIFICATION

SIZE

DWG. NO.

A

60050

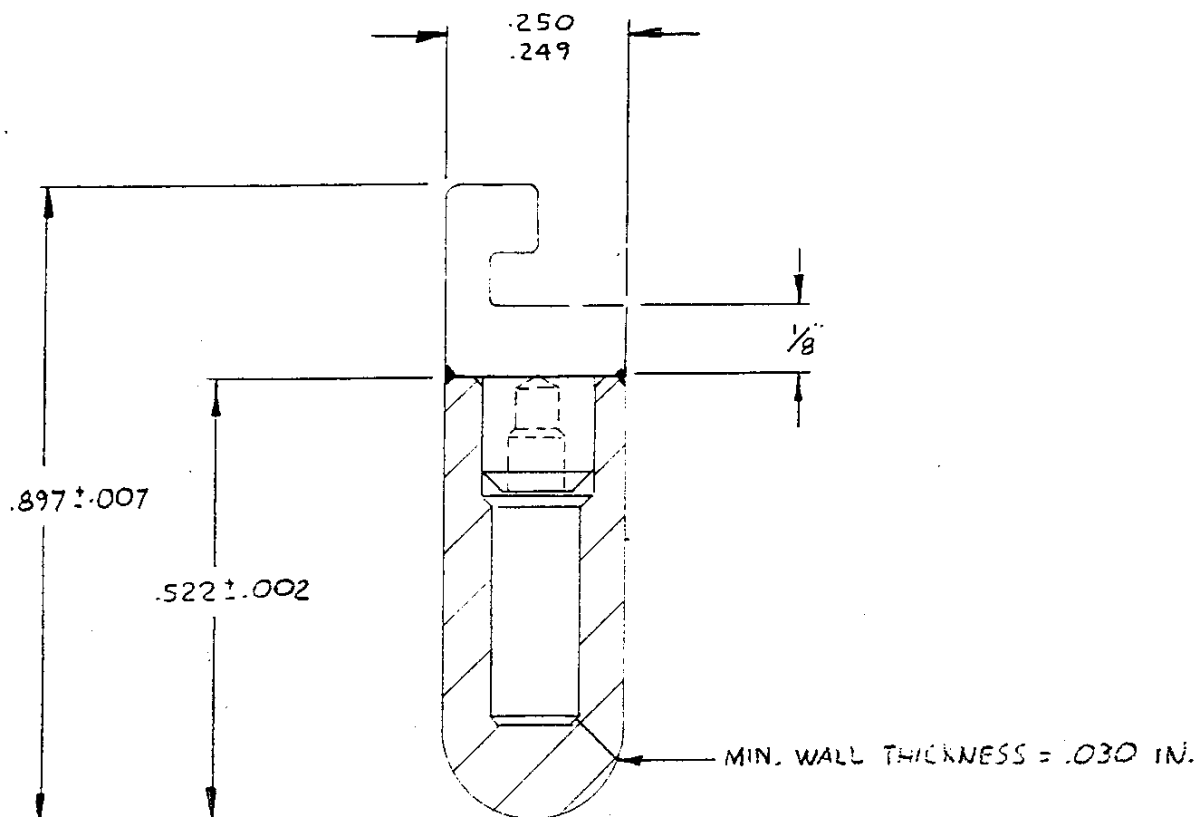
REV.

C

SCALE 1:1

SHEET 1 OF 3

REV	ENGINEER	DATE	DESCRIPTION	
A	TA	6/15/93	RELEASED TO PRODUCTION	1396



- NOTES: 1. INTERNAL VOID VOLUME TO BE 0.010 ML OR GREATER.
2. INNER CAVITY DIMS. MAY VARY. METALLIC SPRINGS, SPACERS AND GUARDS WHICH SECURE AND/OR LOCATE RADIOACTIVE MATERIAL WITHIN THE CAPSULE MAY BE USED.

USED ON: 600			RELEASED FOR PRODUCTION ON _____ BY _____		
MATERIALS: 304 stainless steel			AMERSHAM CORPORATION BURLINGTON, MA 01803 Amersham		
FINISH			DWG. TITLE 60006 SERIES CAPSULE DESCRIPTIVE ASSEMBLY		
DATE	6/15/93	UNLESS OTHERWISE SPECIFIED TOLERANCES ARE			
PREPARED	TA	.X ± 0.1			
ENGINEER		.XX ± 0.01			
CHECKED	DM	.XXX ± 0.005			
APPROVED	6/15/93	ANGLES ± 1°	CLASSIFICATION	SIZE	DWG. NO.
		FRACT ± 1/64	NA	A	60024
			SCALE	NTS	SHEET 1 OF 1
			REV A		